SANTA CLARA VALLEY WATER DISTRICT
LIBRARY
5750 ALMADEN EXPRESSWAY
SAN JOSE, CALIFORNIA [illegible]

GB1025S383A51984

GAVILAN WATER CONSERVATION DISTRICT
ANNUAL INVESTIGATION AND REPORT OF GROUNDWATER CONDITIONS

March 13, 1984

The Gavilan Water Conservation District, in accordance with Section 75560 of the California Water Code, submits the annual report on groundwater conditions. In conformance with the California Water Code, Section 75561, the report includes information on the total production of water from the groundwater supplies for the preceding year (1982-83); information for the determination of the accumulated overdraft of the preceding water year; information on and an estimate of the annual overdraft of the current water year (1983-1984) and the ensuing water year (1984-1985); and other information pertinent to the District's management of the groundwater basin.

The preceding water year (July 1982 to June 1983) witnessed record amounts of precipitation, abundant runoff, and a surcharged groundwater basin. Rainfall at the Uvas and Chesbro reservoirs measured 59.25 and 52.65 inches. Rainfall for the City of Gilroy set a new record of 39.11 inches. Both the Chesbro and the Uvas reservoir filled and spilled providing a combined maximum reservoir storage of 18,086 acre feet. Releases from Chesbro Reservoir and the Uvas/Llagas transfer line for percolation in the Llagas Creek and the Church Avenue Percolation Ponds amounted to 4,718.83 acre feet. Releases to Uvas Creek from Uvas Reservoir for groundwater recharge and maintenance of the steelhead nursery (in accordance with the Fish and Game agreement of 1958) amounted to 6,047.63 acre feet. Total releases for recharge purposes amounted to 10,766.46 acre feet.

As a result of a second consecutive year of above average precipitation and adequate artificial and natural recharge[1], the groundwater

---

GB
1025
S383.A5
v.1984

[1] Natural replenishment occurs from surface water penetrating into he aquifers from all natural sources while artificial recharge into hannels and ponds is a District operation.

basin exhibited significant groundwater levels. The minimum depth to groundwater, 19.32 feet, occurred in April, and established a new record for the highest monthly groundwater level. The annual mean depth to groundwater was 31.69 feet, an increase of 16.54 feet from the previous year. Intermittent artesian activity, an annual event during normal years, was again noted in November in the southern portion of the District and it continued through June. Artesian activity was also observed north of Highway 152 near San Ysidro School and south of Maple Avenue in the vicinity of the Southern Pacific railroad tracks. This northerly occurrance of artesian activity near Highway 152 was last noted by W. O. Clark in 1913, and provides further proof of the surcharged state of the groundwater basin.[2]

The combined effect of bountiful rainfall and the District's recharge practices insured a hydrologic balance for the preceding water year. The total groundwater extractions as calculated from the groundwater income for the preceding water year were 29,836 acre feet. Of the total groundwater extractions, approximately 20,882 acre feet were used by agriculture and 8,954 acre feet were used for municipal and industrial purposes. The 19,070 acre feet difference between water extractions and artificial recharge was more than supplied by natural replenishment.[3] This fact is verified by the significant increase in the annual mean depth to groundwater and by the extent and duration of artesian activity. The drought induced accumulated overdraft which was overcome in 1980-81 was no longer a factor. High precipitation and prudent water management practices insured that groundwater extractions did not exceed the Llagas groundwater basin's supply.

---

[2] Robert E. Faye, Mathematical Model of the West Bolsa Ground-Water Basin, San Benito County, California, U. S. Geological Survey, Water Resources Division, Menlo Park, California, December, 1976, p. 12

[3] The average annual natural repletion rate of the Llagas groundwater basin within the jurisdiction of the Gavilan Water Conservation District was estimated to be 49,530 acre feet by Anthony H. Solocum, P.E., Evaluation of Water Conservation Alternatives for South Santa Clara Valley Water Conservation District, Santa Clara, California, March 31, 1976, p. 12. Since rainfall in 1982-1983 exceeded all previously recorded figures, the amount of water available for natural replenishment was also significantly increased. Thus natural replenishment more than made up for the difference between artificial recharge and groundwater extractions.

Since the basin was primed from the preceding water year and the Chesbro and Uvas reservoirs had carry-over storage totaling 12,051 acre feet in November, 1983, the outlook for the current water year (1983-1984) is quite good. Water data from July, 1983 to March, 1984 of the current water year shows 18.86 and 22.84 inches of rain recorded at the Chesbro and Uvas reservoirs. Both reservoirs would have filled and spilled in November, but with the high water levels in the basin, the District chose to maintain flood storage space in both reservoirs. An unusually dry January and about fifty percent average rainfall in February[4] made it unlikely that the reservoirs would be filled in the current water year. Average depth to groundwater as measured in March of the current water year shows a depth of 23.48 feet. Intermittent artesian activity was again present in the southern portion of the groundwater basin in November, and it has continued unabated into March.

While the Chesbro and Uvas reservoirs will probably not have maximum storage available for the upcoming percolation season, the present groundwater levels indicate the basin has sufficient supplies for the ensuing water year. Should drier weather conditions persist throughout the spring season, groundwater pumping may cause a slight but early reduction in the average monthly groundwater level. Despite the prospect of somewhat less than average rainfall[5] and the possibility of slightly increased groundwater extractions, the present groundwater storage plus available surface water supplies of 13,252 acre feet (as of February 29, 1984) are predicted to be sufficient to avoid an annual overdraft in the ensuing water year (1984-1985).

In addition to managing the basin's water supplies, the District must also monitor and protect the quality of native waters. Accordingly, the District samples surface waters to monitor their integrity. Groundwater quality is also a concern, and the District's efforts in the last year have been directed toward the support and local promotion of a county wide ordinance governing the underground storage of hazardous materials.

---

[4] "California Water Supply Outlook", Department of Water Resources, Sacramento, California, March 8, 1984, p. 2

[5] Rainfall for the City of Gilroy from July, 1983 to March, 1984 of the current water year is 14.48 inches. With about twenty-five percent of the water year remaining, the total rainfall for the current water year is a little less than seventy-five percent of Gilroy's average annual rainfall.

During 1983, the District also competed for grant funds for a water quality monitoring program. While its bid for 205(j) Funds was not successful, the District remains committed to the protection of the underground water basin, and it will continue its endeavors in this area.

The data from the preceding and current water years demonstrates that the Gavilan Water Conservation District is prudently managing its facilities and resources. A charged groundwater basin coupled with the District's efforts to monitor and protect the integrity of the native waters ensures the District's users an adequate water supply in the ensuing water year.

BIBLIOGRAPHY

1. "California Water Supply Outlook", Department of Water Resources, Sacramento, California, March 8, 1984, p. 2

2. W. O. Clark, *Groundwater For Irrigation in the Morgan Hill Area, California*, United States Geological Survey Water Supply Paper 400, 1917

3. Robert E. Faye, *Mathematical Model of the West Bolsa Ground-Water Basin, San Benito County, California*, United States Geological Survey, Water Resources Division, Menlo Park, California, December, 1976, pp. 54

4. Anthony H. Slocum, P.E., *Evaluation of Water Conservation Alternatives for South Santa Clara Valley Water Conservation District*, Santa Clara, California, March 31, 1976, pp. 30